APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,777	06/01/2001	Bogdan Kosanovic	TI-32882	3090

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EXAMINER
SHAH, NILESH R

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		**09/871,777**	**KOSANOVIC, BOGDAN**
		Examiner	Art Unit
		Nilesh Shah	2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2005*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9,10,17,18 and 20-34* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 9,10, 17,18, 20-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-7, 9,10, 17,18, 20-34 are presented for examination.

Claim Objections

2. Claim 20 is objected to because it is dependent on a canceled claim 19. The numbering of

claims is not in accordance with 37 CFR 1.126 which requires the original numbering of

the claims to be preserved throughout the prosecution. When claims are canceled, the

remaining claims must not be renumbered. When new claims are presented, they must be

numbered consecutively beginning with the number next following the highest numbered

claims previously presented (whether entered or not).

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine
grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d
1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed.
Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*,
422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to
overcome an actual or provisional rejection based on a nonstatutory double patenting
ground provided the conflicting application or patent is shown to be commonly owned
with this application. See 37 CFR 1.130(b).
Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37
CFR 3.73(b).

4. Claims 1,17 and 28 are provisionally rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claim 1 of copending

Application 09/871775.

Although the conflicting claims are not identical, they are not patentably distinct from

each other because the examiner can ascertain no difference between the claim of the

present application and that of copending Application No. 09/871775.   It is noted that

the minor difference encompass replacement of the recitation of the limitations in the

claims and it appears to be substantially the same or duplicate or in some instance

obvious over one another.

This is a provisional obviousness-type double patenting rejection because the conflicting

claims have not in fact been patented.

Claim Rejections - 35 U SC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the
> prior art are such that the subject matter as a whole would have been obvious at the time the invention
> was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability
> shall not be negatived by the manner in which the invention was made.

6. Claims 1-7, 9,10, 17,18, 20- 28 31,33-34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Robertazzi et al. (US 6,370,560, hereinafter Robertazzi) in view of

Baker-Harvey (US 6,385,638).

7. A method of allocating processing resources to functions in a queue waiting to be

executed, comprising:

determining an amount of processing resources available to be assigned within a

processor to the functions(col. 3, lines 1 – 8, col. 6, lines 18 – 36; col. 11, lines 55 – 67);

determining an estimate of an amount of the processing resources needed for each

function waiting in the a queue to execute(col. 5, lines 52 – 61; col. 6, lines 18 – 36); and

allocating the available processing resources within said processor to the functions based

on an allocation scheme(col. 2, lines 52 – 62, col. 5, lines 51 – 60). Robertazzi does not

specifically teach the use of estimating the amount of the resources needed.

8. However it is well known to one of ordinary skill in the art that the amount of resources

needed can be an estimate. It would have been obvious to one of ordinary skill in the art

at the time of the invention was made to include the option of estimating the amount to

the existing system of Robertazzi because it would increase the accuracy of the amount of

resources needed thus improving overall planning of the system and resources.

9. Robertazzi failed to teach the processing resource is within a processor. Nevertheless,

Baker-Harvey discloses the allocating and scheduling the available processing resource

on a processor to tasks (abstract, col. 1, lines 65 – 67, col. 2, lines 1 – 8). It would have

been obvious for one of an ordinary skill in the art, at the time the invention was made to

include the feature of allocating and scheduling the available processing resource of a

processor to computing tasks to ensure a minimum quality of service is provided to each

running task (Baker-Harvey: abstract).

10. As per claim 2, Robertazzi teaches a method wherein the functions are decomposed

elements of one or more algorithms(col. 3, lines 1 – 8, col. 6, lines 18 – 36; col. 11, lines

55 – 67); and

the functions allow management of their computational requirements (col. 11, lines 55 –

67).

11. As per claim 3, Robertazzi teaches a method wherein the functions within the one or

more algorithms may be managed by to execute concurrently in the processor (col. 2,

lines 52 – 62, col. 5, lines 51 – 60).

12. As per claim 4, Robertazzi teaches a method wherein said allocating comprises assigning

each of the functions a separate priority within hierarchical priority scheme (col. 5 lines

51-60).

13. As per claim 5, Harvey teaches a method wherein each function is assigned a separate

priority within the round-robin allocation scheme (col. 5, lines 12 – 17, 31 – 39, col. 6,

lines 10 – 11).

14. As per claim 6, Robertazzi teaches a method further comprising:

assigning a resource throttling value to each function waiting in the queue to be executed,

wherein the throttling value determines the reduction of the processing resources

allocated to each of the functions (col. 11 lines 10 – 27 and 55 – 67; col. 9 lines 10 – 25).

15. As per claim 7, Robertazzi teaches a method wherein the allocation of the available

processing resources to the functions waiting in the queue is conducted to optimize the

amount of the processing resources assigned to the functions (col. 2, lines 52 – 62, col. 5,

lines 51 – 60).

16. As per claim 9, Robertazzi teaches a method further comprising:

measuring the actual amount of processing resources used by each function within said

processor(col. 3, lines 1 – 8, col. 6, lines 18 – 36; col. 11, lines 55 – 67);

determining a revised estimate of the amount of the processor resources needed for each

function waiting in the queue to execute based on the measured amount of the processing

resources used (col. 11 lines 10 – 27 and 55 – 67; col. 9 lines 10 – 25); and

reallocating the available amount of the processing resources to the functions in

accordance with the revised estimate (col. 9 lines 10 – 25).

17. As per claim 10, Robertazzi teaches a method further comprising

comparing the measured amount of the processing resources used to a high threshold

value (col. 11 lines 55 – 67); and

executing an alarm if the measured amount of the processing resources used exceeds the

high threshold value (col. 11 lines 55 – 67).

18. Claim 17 is rejected based on the same rejection as claim 1 above.

19. Claims 18 and 20 are rejected based on the same rejection as claims 4-5 above.

20. As per claim 21, Robertazzi teaches a method further comprising:

for each instance, assigning an increasingly higher priority in accordance with an

increasingly greater number of time periods passed since execution of a function waiting

in said queue(col. 3, lines 1 – 8, col. 6, lines 18 – 36; col. 11, lines 55 – 67).

21. Claims 22-23 is rejected based on the same rejection as claims 9-10 above.

22. Claim 24 is rejected based on the same rejection as claim 6 above.

23. As per claim 25, Robertazzi teaches a method further comprising reducing the number of

functions that may execute concurrently when the alarm is execute (col. 2, lines 52 – 62,

col. 5, lines 51 – 60).

24. As per claim 26, Robertazzi teaches a method wherein said determining comprises

estimating said amount of processing resources that do not exceed a total processing

resources of said processor (col. 11 lines 10 – 27 and 55 – 67; col. 9 lines 10 – 25).

25. As per claim 27, Robertazzi teaches a method further comprising:

controlling each function to execute within an allocated processing resource in said

processor according to said allocation scheme(col. 3, lines 1 – 8, col. 6, lines 18 – 36; col.

11, lines 55 – 67); and

controlling each function to cease execution according to a degradation scheme if a sum

said function executions exceed a total processing capacity of said processor that is

allocated to said algorithm(col. 2, lines 52 – 62, col. 5, lines 51 – 60).

26. Claim 28 is rejected based on the same rejection as claim 1 above.

27. Claim 31 is rejected based on the same rejection as claim 9 above.

28. Claim 33 is rejected based on the same rejection as claim 10 above.

29. Claim 34 is rejected based on the same rejection as claim 2 above.

30. Claims 29, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Robertazzi et al. (US 6,370,560, hereinafter Robertazzi) in view of Baker-Harvey (US

6,385,638), and further in view of Applicant's admitted prior art (hereinafter AAPA).

31. As per claim 29, as modified Robertazzi discloses the load determining means comprises an estimating means for estimating processing resource consumption of each function (Harvey: fig. 3 and col. 7, lines 44 – 49), and for updating said consumption processing resource estimation when a state of each function changes (Harvey: col. 5, lines 36 – 39, 54 - 57). Modified Robertazzi did not specifically disclose the processing resource including the millions of instruction per second (MIPS). Nevertheless, AAPA discloses that processor resource including MIPS which can be allocated to one or more functions or multiple states of a function is considered well know in the art (specification page 1, lines 19 – 22). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate AAPA's teaching to modified Robertazzi so that a variety of computing resources can be considered for better planning and more efficient in resource allocation.

32. As per claim 30, as modified Robertazzi discloses the allocating means comprises an assigning means for assigning an allocation of processing resources, within the processor, for determining a total processing resource available within the processor available for processing (Robertazzi: col. 3, lines 1 – 8 and col. 6, lines 18 – 36), and for assigning an allocation of processing resource for execution of each function according to the allocation scheme (Robertazzi: col. 2, lines 52 - 62 and col. 5, lines 51 – 60). Modified Robertazzi did not specifically disclose the processing resource including the millions of instruction per second (MIPS). Nevertheless, AAPA discloses processor resource including MIPS which can be allocated to one or more functions or multiple states of a

function is considered well know in the art (specification page 1, lines 19 – 22). It would

have been obvious for one of an ordinary skill in the art, at the time the invention was

made, to incorporate AAPA's teaching to modified Robertazzi so that a variety of

computing resources can be considered for better planning and more efficient in resource

allocation.

33. Claim 32 is rejected based on the same rejection as claim 29 above.

Response to Arguments

34. Applicant's arguments with respect to claims 1-7, 9,10, 17,18, 20-34 have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

35. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nilesh Shah whose telephone number is (571)272-3771.

The examiner can normally be reached on 9-5. The examiner can normally be reached on

9-5.Any inquiry of a general nature or relating to the status of this application should be

directed to the TC 2100 Group receptionist: 571-272-2100

   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng An can be reached on (571)272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Nilesh Shah
Examiner
Art Unit 2195

NS
April 12, 2005

MAJID BANANKHAH
PRIMARY EXAMINER